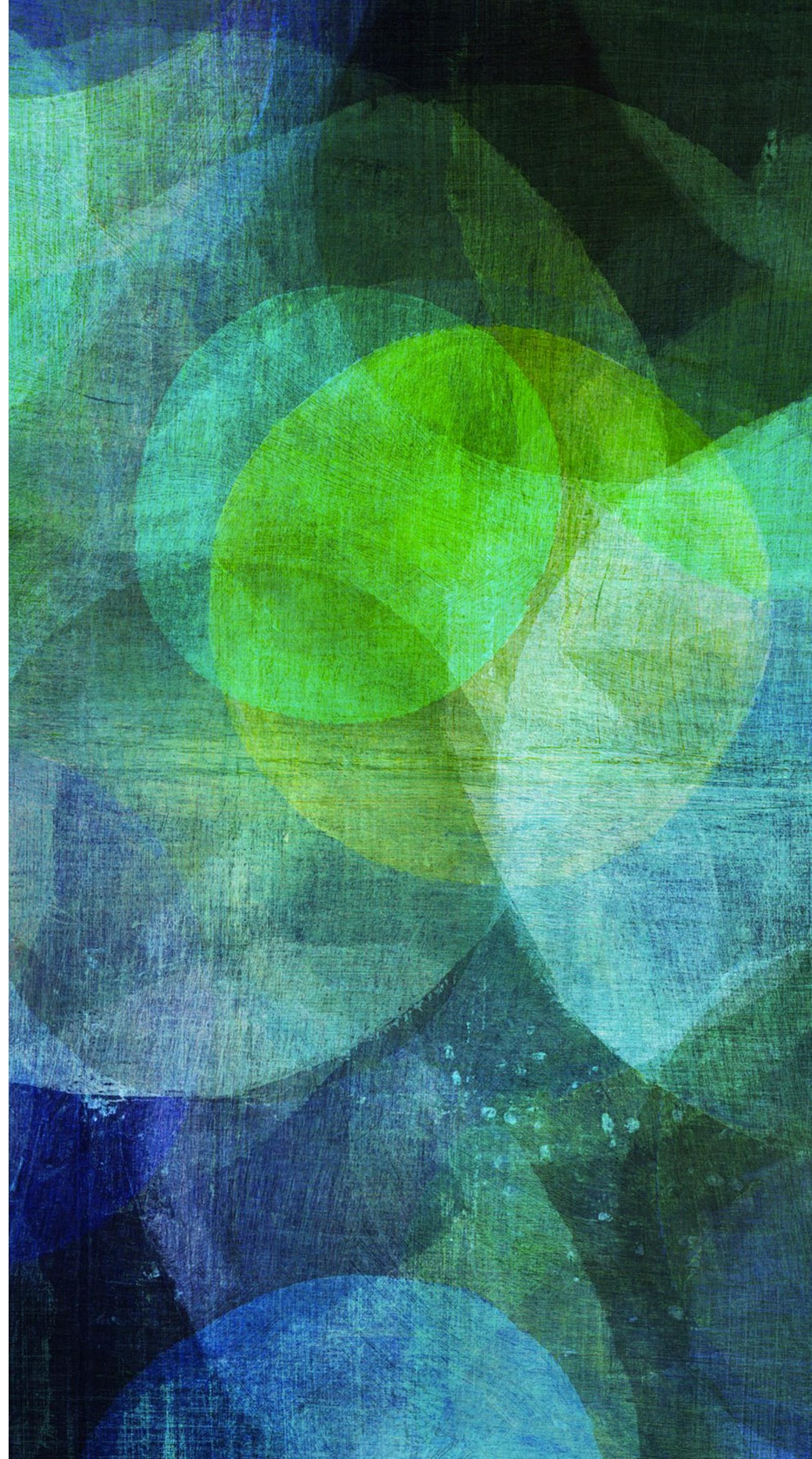




YELP REPORT CARDS

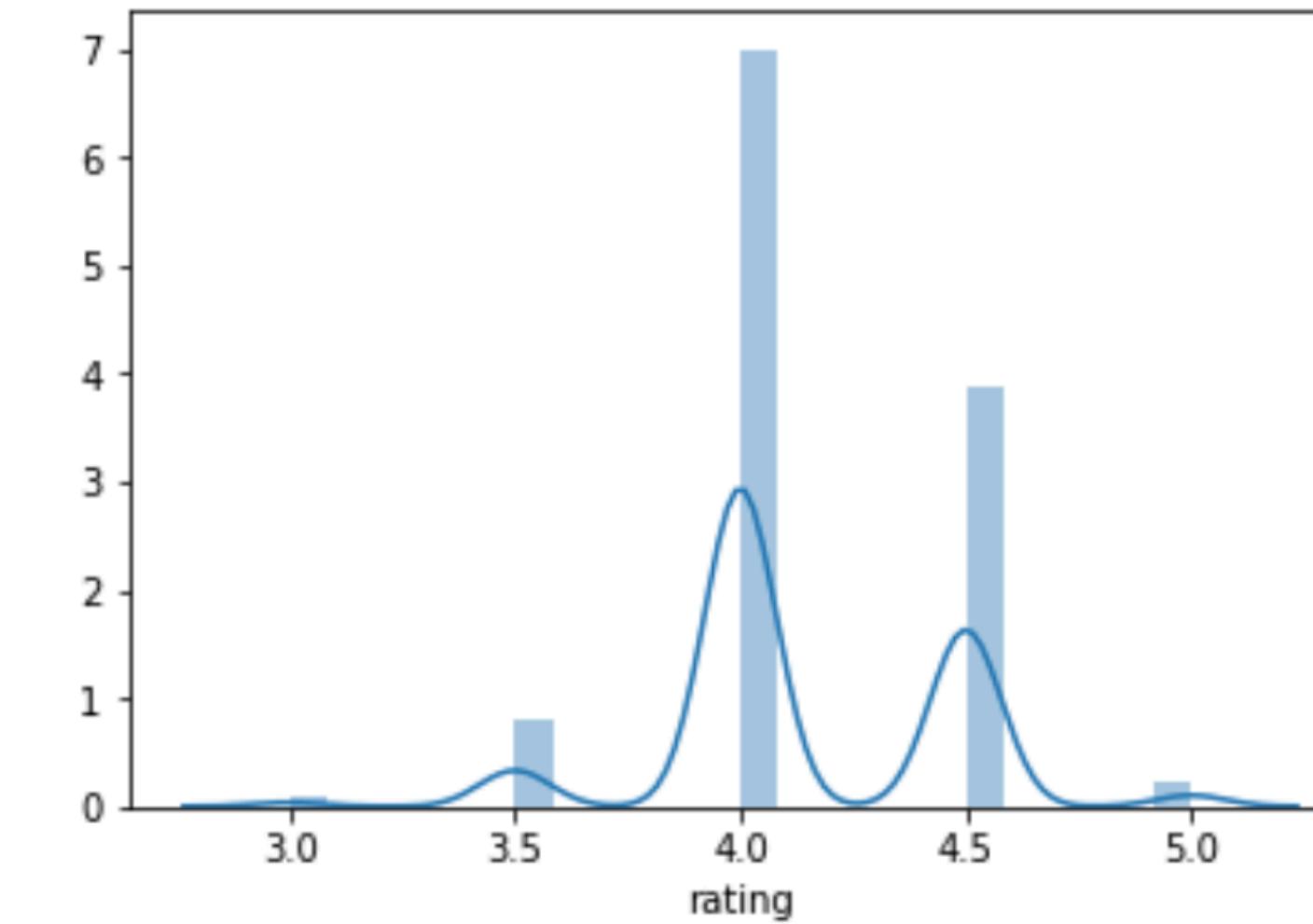
Here We Go Again!

BUSINESS OWNERS HATE YELP REVIEWS



WHY RESTAURANTS DON'T LIKE YELP

ULTIMATELY USELESS – THROUGH LAW OF LARGE NUMBERS
YOUR SCORE WILL EVENTUALLY SETTLE INTO ITS APPROPRIATE
RUT (USUALLY A 4).



Distribution of ratings of 1000 Restaurants



WHY RESTAURANTS DON'T LIKE YELP

.....

REVIEWS TEND TO BE EXTREME ON ONE END OR THE OTHER



Fangfang L.
Philadelphia, PA
0 friends
1 review
1 photo

 12/12/2018
 1 photo

This one is the best of this restaurant! But I haven't try a lot of others on the menu. The location is near the subway station, it might hard to find because it's under the construction. The store is nice and not too big, like the decoration in the restaurant.



Fangfang L.
Manhattan, NY
2 friends
3 reviews

 10/4/2018

One of the worst burgers I've ever had. The patty tasted like it's been made one week ago--dry and cold. The cheese are barely melted and the entire burger just taste like a piece of old plastic. Not worth 169 kr at all. I could not describe how disappointed I am with it because it tastes beyond awful.

 Useful  Funny  Cool



Extremely Amazed

Extremely Angry

WHY RESTAURANTS DON'T LIKE YELP

.....

1 STAR REVIEWS ARE GIVEN FOR A SINGLE ASPECT OF THE DINING EXPERIENCE.



Ross F.

NJ, NJ

68 friends
22 reviews
9 photos

★ ★ ★ ★ ★ 9/7/2014

The entire kitchen and wait staff saw an ice cream truck and ran outside, leaving me alone in the restaurant. 10 minutes later they all came back with ice cream cones.

I still can't believe this actually happened.

Useful 142

Funny 655

Cool 161





HOW CAN **yelp**® HELP
RESTAURANTS BE BETTER?

LET'S LOOK AT THE DATA

Artisanally Hand-Scraped from Yelp (with bonus ban!)

Targeted Data:

Utilize Yelp API to get list of 1000 restaurants by Borough

Scrape 100+ Reviews from each Restaurant where possible

Removed Restaurants with fewer than 50 reviews

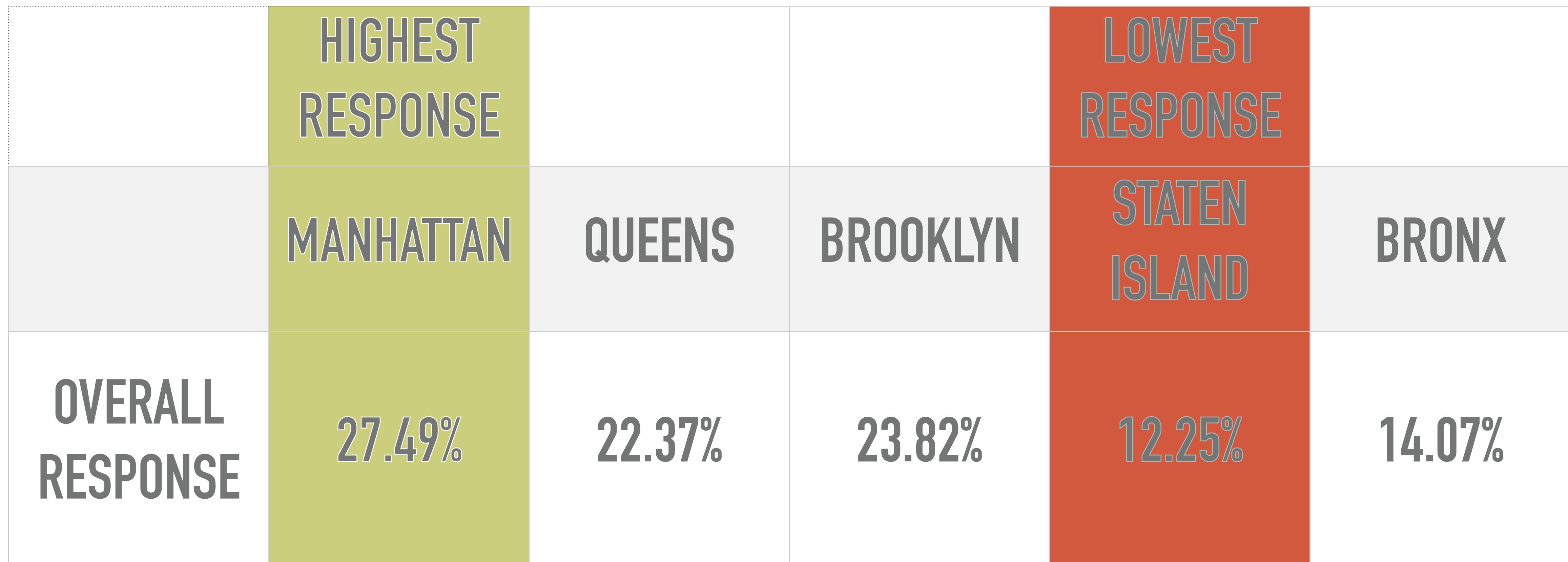


HERE'S THE DATA

	MANHATTAN	QUEENS	BROOKLYN	STATEN ISLAND	BRONX
TOTAL RESTAURANTS	1000	1000	1000	1000	1000
ACTUAL REVIEWS	115588	94031	100166	51490	59150
AVERAGE REVIEWS PER RESTAURANT	115.588	94.031	100.166	51.49	59.15



HOW THE BOROUGHS STACKED UP AGAINST EACH OTHER



VADER SENTIMENT ANALYSIS



VADER'IZIN - HIGHEST AVERAGE COMPOUND SENTIMENT

.....

Fish Cheeks - Authentic Thai Restaurant in East Village

★ 4.5 Stars on Yelp

★ 1 star from NYTimes (apparently that's good)

★ Yelp Highlights:



Karen Y.
Brooklyn, NY
242 friends
510 reviews
2073 photos
Elite '2019

★★★★★ 9/13/2019
11 photos 2 check-ins

This meal left me quite speechless and as my friends would say "Holy sh*tz, the only time you're ever speechless is when you got laryngitis!".

Yup. That. Freaking. Good.



Alex C.
Jersey City, NJ
302 friends
416 reviews
1577 photos
Elite '2019

★★★★★ 8/7/2019
7 photos

Seriously the best Thai food I've had stateside. Incredibly complex layering of flavors - something out of my dream.

Started with a round of Prosecco to warm the stomach then we dove into some Pig Cheeks (no Fish Cheeks here LOL), slices very thin and tender, with some incredible sauce.



VADER'IZIN - LOWEST AVERAGE COMPOUND SENTIMENT

Di Fara Pizza - Famous NYC Pizza in Midwood

- ★ 4 Stars on Yelp
- ★ Declared “Best Pizza in NYC” by Mayor DiBlasio
- ★ Yelp Highlights:



Dom G.
New York, NY
12 friends
157 reviews
229 photos
Elite '2019

★★★★ 9/29/2019
1 photo 1 check-in

Came here after a trip to Coney Island. Got here around 4:30pm and thought the wait time wasn't going to that bad. Boy was I wrong!

The restaurant bit was closed for a private event so we ordered through the little window in the corner. The process was straightforward until they told us it was going to be a 40 minutes wait. We decided to go ahead and wait anyway. They took down our name and order. No payment required at this time. We were told to come back within 40 mins.



Leonid L.
Brooklyn, NY
39 friends
22 reviews
5 photos

★★★★★ 10/21/2019

Best pizza place in the world, I hope it stays that way as the kids take over. I wish there would be a system where I can order ahead so I don't wait 2 hours though

Useful

Funny

Cool 1



LATENT DIRICHLET ALLOCATION

LDA - DEATH BY A THOUSAND CUTS

Gensim Multi-Core LDA with TF-IDF

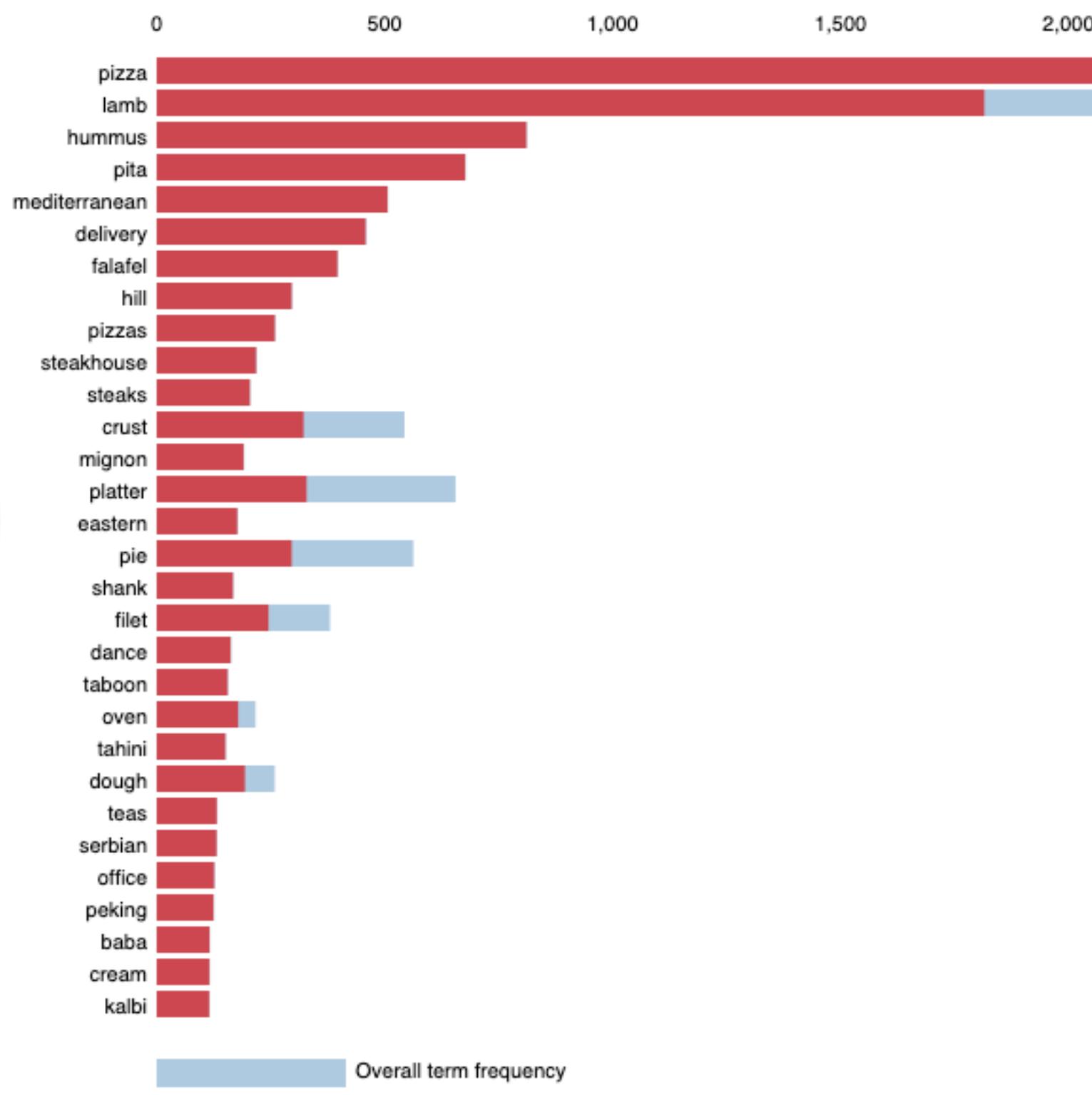
Stop Words Added: 1000 😞

15 Topics Searched

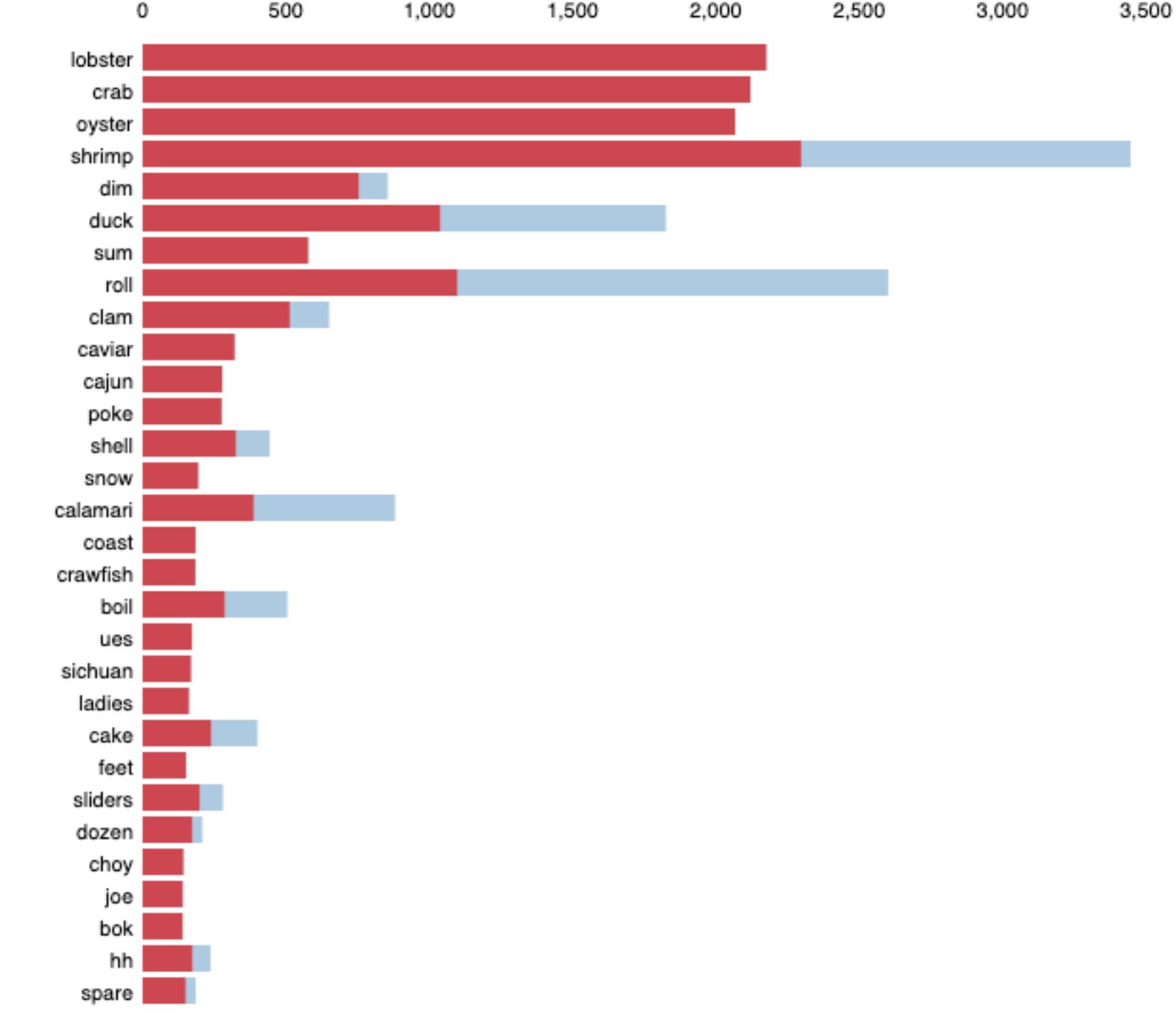
Service related reviews make up less than 30% of total reviews.



Top-30 Most Relevant Terms for Topic 10 (2.8% of tokens)

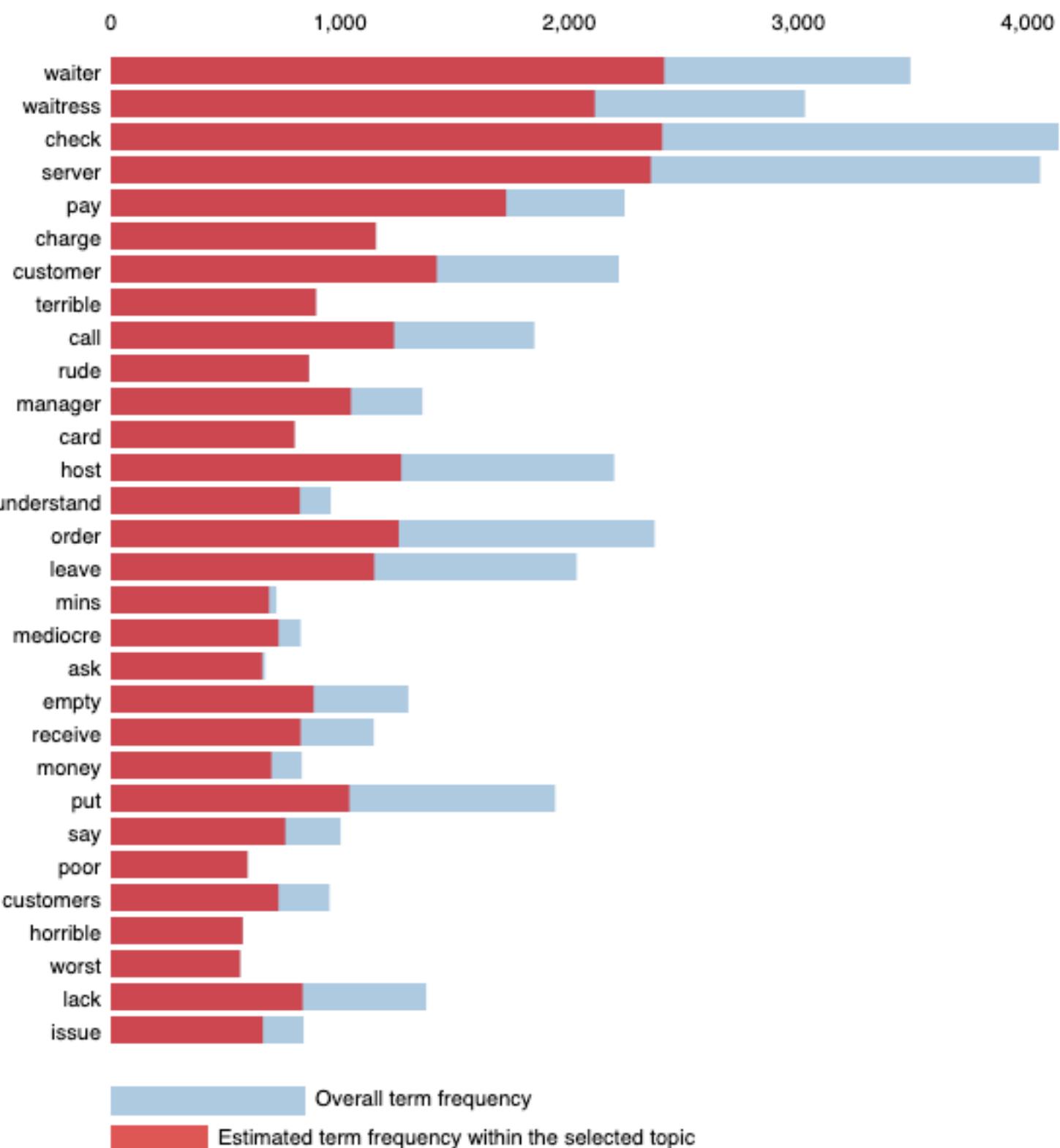


Top-30 Most Relevant Terms for Topic 9 (3.8% of tokens)



A Sample of Our Final Topics

Top-30 Most Relevant Terms for Topic 3 (14.5% of tokens)



1. saliency(term w) = frequency(w) * [sum_t p(t | w) * log(p(t | w) / p(t))] for topics t; see Chuang et. al (2012)
 2. relevance(term w | topic t) = $\lambda * p(w | t) + (1 - \lambda) * p(w | t) / p(w)$; see Sievert & Shirley (2014)



PUTTING IT ALL TOGETHER



Combining LDA and Vader Sentiment Analysis Gives Us our Report Card



Choose a Restaurant

Upstate

Yelp Report Card

by Hamilton Chang



Welcome to the Yelp Report Card. For this project, I collected approximately 115,000 reviews from 896 restaurants in New York City. I then processed them for Sentiment Analysis to determine if the review was positive or negative. My next step was to use Latent Dirichlet Allocation or LDA on the approximately 3.7 million words in the reviews to determine the topic of the review, separated as Food, or Service. Lastly, I combined my two analysis to determine if the reviewer liked the food/service, or did not like the food/service and produced a final score as a percentage of responses.

Why are we doing this? To help restaurants establish a baseline and determine what part of the dining experience they need to work on. This potentially could be an add on service for business owners so they can fine tune their restaurant and hopefully improve their numbers.

Feel Free to Play with it!

Upstate	
negfood_score	0.0403
negservice_score	0.0403
posfood_score	0.7016
posservice_score	0.2177

